

REMARKS

Claims 1, 5, 6 and 9 are pending in this application. By this Amendment, claim 1 is amended. Support for the amendment to claim 1 can be found in the specification, for example, at page 10, lines 8-10, page 14, lines 3 and 4, and original claim 4. No new matter is added. Claims 4, 7 and 8 are canceled without prejudice to, or disclaimer of, the subject matter recited therein. Reconsideration and prompt allowance of the application are respectfully requested.

The Office Action rejects claims 1, 6 and 9 under 35 U.S.C. §103(a) over Natori et al. (U.S. Patent Application Publication No. 2003/0020157, hereinafter "Natori") in view of Maloney (U.S. Patent No. 6,365,236), Wu (U.S. Patent No. 6,393,210) and Perino et al. (U.S. Patent No. 5,426,075, hereinafter "Perino"); rejects claim 4 under 35 U.S.C. §103(a) over Natori in view of Maloney, Wu and Perino further in view of Cuchiaro et al. (U.S. Patent No. 6,225,156, hereinafter "Cuchiaro"); and rejects claim 5 under 35 U.S.C. §103(a) over Natori in view of Maloney, Wu and Perino further in view of Rubey et al. (U.S. Patent No. 5,846,293, hereinafter "Rubey"). The rejections are respectfully traversed.

The above-applied references do not teach, and would not have rendered obvious, alone or in combination, each and every feature of independent claim 1. For example, the applied combination does not teach "a metal material including lead or bismuth included in the complex oxide in an amount of at most 5% in excess of a stoichiometric composition is applied to a substrate;" "crystallizing the raw material body by increasing pressure of the gas in the chamber to a predetermined pressure of 9.9 atmospheres;" and "wherein the heat treatment is performed by using a rapid thermal annealing method, wherein the treatment target is heated to the second temperature at a temperature rise rate of 50°C/sec or more," as recited in independent claim 1.

The applied combination fails to disclose a metal material including lead or bismuth being included in a complex oxide in an amount of at most 5% in excess of a stoichiometric composition being applied to a substrate. According to the present application, because vaporization of lead or bismuth is reduced, it is possible to reduce the amount of lead or bismuth included in the complex oxide in an amount of at most 5% in excess of the stoichiometric composition, as recited in independent claim 1. The applied combination fails to teach small amounts of lead or bismuth.

Further, the above-applied references do not teach a treatment target being heated to a second temperature at a temperature rise rate of 50°C/sec or more and crystallizing a raw material body by increasing pressure of a gas in a chamber to a predetermined pressure of 9.9 atmospheres, which define the specific conditions for Rapid Thermal Annealing (RTA). Under the specific conditions for RTA, a (001) oriented PZT film that does not include a paraelectric pyrochlore phase can be obtained only as a specimen 1. One of ordinary skill in the art would find no guidance in the applied combination of references to predictably obtain the specific conditions for RTA, as recited in independent claim 1. Therefore, the applied references fail to teach, and would not have rendered obvious the combination of all of the features of independent claim 1.

Therefore, for at least these reasons, independent claim 1 is patentable over the applied references. Claims 5, 6 and 9 depend from independent claim 1, thus claims 5, 6 and 9 are also patentable over the applied references for at least their dependence on claim 1, as well as for the additional features they recite.

Thus, Applicants respectfully request withdrawal of the rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Request for Continued Examination

Date: January 26, 2010

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